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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/766,433	01/27/2004	Fu-Cheng Chen	250317-1090	4009

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EXAMINER

BRIGGS, NATHANAEL R

ART UNIT	PAPER NUMBER
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2871

DATE MAILED: 07/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/766,433	CHEN ET AL.	
	Examiner	Art Unit	
	Nathanael Briggs	2871	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 January 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-3, and 6 are rejected under 35 U.S.C. 102(e) as being anticipated by Kubo et al. (US 6,924,876).
4. Regarding claim 1, Kubo discloses a MVA LCD (see figures 11A, 23B, and 46A, for instance) having a first substrate (21) and a second substrate (11); a common electrode (22) disposed on a first surface of the first substrate (21); a plurality of pixel electrodes (15) disposed on a first surface of the second substrate (11) and corresponding to the common electrode (22); a plurality of liquid crystal molecules (30a) filled between the first substrate (21) and the second substrate (11); a domain regulating means (40) disposed on the second substrate (11) for regulating the LC

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director of the liquid crystal molecules (30a); a first quarter-wave plate (60b) disposed on the top of a second surface of the first substrate (21); a first linear light polarizer sheet (50b) disposed on the top of the first quarter-wave plate (60b); a second quarter-wave plate (60a) disposed on the bottom of a second surface of the second substrate (11); and a second linear light polarizer sheet (50a) disposed on the bottom of the second quarter-wave plate (60a); wherein the incident light is in the form of circularly polarized light when transmitted through the liquid crystal molecules (30a) of the MVA LCD (column 58, lines 32-35). Claim 1 is therefore unpatentable.

5. Regarding claim 2, Kubo discloses the MVA LCD according to claim 1 (see figures 11A, 23B, and 46A, for instance), wherein the included angle between the slow axis (SL1) of the first quarter-wave plate (60b) and a first transmission axis (SL1) of the first linear light polarizer sheet (50b) is substantially 45° (column 59, lines 15-17) and the included angle between the slow axis (SL2) of the second quarter-wave plate (60a) and a second transmission axis (PA2) of the second linear light polarizer sheet (50a) is substantially 45° (column 59, lines 13-15). Claim 2 is therefore unpatentable.

6. Regarding claim 3, Kubo discloses the MVA LCD according to claim 1 (see figures 11A, 23B, and 46A, for instance), wherein the MVA LCD further includes a half-wave (70b) plate disposed between the first quarter-wave plate (60b) and the first linear light polarizer sheet (50b). Claim 3 is therefore unpatentable.

7. Regarding claim 6, Kubo discloses the MVA LCD according to claim 3 (see figures 11A, 23B, and 46A, for instance), wherein the slow axis (SL3) of the half-wave

plate (70b) is parallel to a first light transmission axis (SL1) of the first linear light polarizer sheet (50b). Claim 6 is therefore unpatentable.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 4-5 and 7-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kubo et al. (US 6,924,876) in view of Nakanishi et al. (US 5,587,821).

10. Regarding claim 4-5 and 7-10, Kubo discloses the MVA LCD according to claim 3 (see figures 11A, 23B, and 46A, for instance). However, Kubo does not expressly disclose values for the NZ coefficient of the phase compensation plates (quarter-wave, half-wave).

11. Regarding claim 4-5 and 7-10, Nakanishi discloses an LCD (see figure 2, for instance) having phase compensation plates (23, 24) with an NZ coefficient value of 0.5 (column 13, lines 37-38).

12. It would have been obvious to one of ordinary skill in the art at the time of the invention to use the phase compensation films of Nakanishi in the LCD of Kubo. The motivation for doing so would be to gain excellent color compensating effects, as taught by Nakanishi (column 3, lines 49-53). Claims 4-5 and 7-10 are therefore unpatentable.

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13. Claims 11-14 and 17-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kubo et al. (US 6,924,876) in view of Winker et al. (US 5,986,733).

14. Regarding claims 11-13, Kubo discloses the LCD of claim 1 (see figures 11A, 23B, and 46A, for instance), having a first substrate (21) and a second substrate (11); a common electrode (22) disposed on a first surface of the first substrate (21); a plurality of pixel electrodes (15) disposed on a first surface of the second substrate (11) and corresponding to the common electrode (22); a plurality of liquid crystal molecules (30a) filled between the first substrate (21) and the second substrate (11); a domain regulating means (40) disposed on the second substrate (11) for regulating the LC director of the liquid crystal molecules (30a); a first quarter-wave plate (60b) disposed on the top of a second surface of the first substrate (21); a first linear light polarizer sheet (50b) disposed on the top of the first quarter-wave plate (60b); a second quarter-wave plate (60a) disposed on the bottom of a second surface of the second substrate (11); and a second linear light polarizer sheet (50a) disposed on the bottom of the second quarter-wave plate (60a); a half-wave plate (70b) disposed between the first quarter-wave plate (60b) and the first linear light polarizer sheet (50b); and a compensation sheet (column 63, lines 18-29) disposed between the first substrate (21) and the first quarter-wave plate (60b); wherein the incident light is in the form of circularly polarized light when transmitted through the liquid crystal molecules (30a) of the MVA LCD (column 58, lines 32-35). However, Kubo does not expressly disclose wherein the compensation sheets are negative C-plates.

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15. Regarding claims 11-13, Winker discloses an LCD (see figure 6, for instance) including a first negative C-plate (COMPENSATOR) and a second negative C-plate (COMPENSATOR) disposed outside of the liquid crystal layer, and wherein the oblique refractive index of the first and the second negative C-plates are both approximately equal to the negative value of the difference of the oblique refractive index of the liquid crystal molecules (column 5, lines 18-25).

16. It would have been obvious to one of ordinary skill in the art at the time of the invention to use the compensators of Winker in the LCD of Kubo. The motivation for doing so would be to correct for unwanted angular effects and to maintain higher contrast at larger viewing angles, as taught by Winker (column 3, lines 16-20). Claims 11-13 are therefore unpatentable.

17. Regarding claim 14, Kubo in view of Winker discloses the LCD of claim 13 (see Kubo figures 11A, 23B, and 46A, for instance), and Kubo further discloses wherein the included angle between the slow axis (SL1) of the first quarter-wave plate (60b) and a first transmission axis (SL1) of the first linear light polarizer sheet (50b) is substantially 45° (column 59, lines 15-17) and the included angle between the slow axis (SL2) of the second quarter-wave plate (60a) and a second transmission axis (PA2) of the second linear light polarizer sheet (50a) is substantially 45° (column 59, lines 13-15). Claim 14 is therefore unpatentable.

18. Regarding claim 17, Kubo in view of Winker discloses the LCD of claim 13 (see Kubo figures 11A, 23B, and 46A, for instance), and Kubo further discloses wherein the

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slow axis (SL3) of the half-wave plate (70b) is parallel to a first light transmission axis (SL1) of the first linear light polarizer sheet (50b). Claim 17 is therefore unpatentable.

19. Regarding claim 18, Kubo in view of Winker discloses the LCD of claim 13 (see Kubo figures 11A, 23B, and 46A, for instance), and Winker further discloses wherein the oblique refractive index of the first and the second negative C-plates are both approximately equal to the negative value of the difference of the oblique refractive index of the liquid crystal molecules (column 5, lines 18-25). Claim 18 is therefore unpatentable.

20. Claims 15-16 and 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kubo et al. (US 6,924,876) in view of Winker et al. (US 5,986,733) as applied to claims 11-14 and 17-18 above, and further in view of Nakanishi et al. (US 5,587,821).

21. Regarding claims 15-16 and 19-20, Kubo in view of Winker discloses the LCD of claim 13 (see Kubo figures 11A, 23B, and 46A, for instance). However, Kubo in view of Winker does not expressly disclose NZ values for the half-wave or quarter-wave plates.

22. Regarding claims 15-16 and 19-20, Nakanishi discloses an LCD (see figure 2, for instance) having phase compensation plates (23, 24) with an NZ coefficient value of 0.5 (column 13, lines 37-38).

23. It would have been obvious to one of ordinary skill in the art at the time of the invention to use the NZ values of Nakanishi in the LCD of Kubo. The motivation for doing so would be to gain excellent color compensating effects, as taught by Nakanishi (column 3, lines 49-53). Claims 15-16 and 19-20 are therefore unpatentable.


Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nathanael Briggs whose telephone number is (571) 272-8992. The examiner can normally be reached on 8:30 AM to 5:00 PM (EST) Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dave Nelms can be reached on (571) 272-1787. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Nathanael Briggs
7/20/2006


ANDREW SCHECHTER
PRIMARY EXAMINER